The carotid plaque imaging in acute stroke (CAPIAS) study: protocol and initial baseline data.

Abstract:
In up to 30% of patients with ischemic stroke no definite etiology can be established. A significant proportion of cryptogenic stroke cases may be due to non-stenosing atherosclerotic plaques or low grade carotid artery stenosis not fulfilling common criteria for atherothrombotic stroke. The aim of the CAPIAS study is to determine the frequency, characteristics, clinical and radiological long-term consequences of ipsilateral complicated American Heart Association lesion type VI (AHA-LT VI) carotid artery plaques in patients with cryptogenic stroke. 300 patients (age>49 years) with unilateral DWI-positive lesions in the anterior circulation and non- or moderately stenosing (<70% NASCET) internal carotid artery plaques will be enrolled in the prospective multicenter study CAPIAS. Carotid plaque characteristics will be determined by high-resolution black-blood carotid MRI at baseline and 12 month follow up. Primary outcome is the prevalence of complicated AHA-LT VI plaques in cryptogenic stroke patients ipsilateral to the ischemic stroke compared to the contralateral side and to patients with defined stroke etiology. Secondary outcomes include the association of AHA-LT VI plaques with the recurrence rates of ischemic events up to 36 months, rates of new...
ischemic lesions on cerebral MRI (including clinically silent lesions) after 12 months and the influence of specific AHA-LT VI plaque features on the progression of atherosclerotic disease burden, on specific infarct patterns, biomarkers and aortic arch plaques. CAPIAS will provide important insights into the role of non-stenosing carotid artery plaques in cryptogenic stroke. The results might have implications for our understanding of stroke mechanism, offer new diagnostic options and provide the basis for the planning of targeted interventional studies. NCT01284933.